



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/782,215

02/19/2004

James A. McClain

030900

5338

41835

7590

12/15/2008

K&L GATES LLP

HENRY W. OLIVER BUILDING

535 SMITHFIELD STREET

PITTSBURGH, PA 15222

EXAMINER

KRISHNAN, GANAPATHY

ART UNIT

PAPER NUMBER

1623

MAIL DATE

DELIVERY MODE

12/15/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/782,215	<b>Applicant(s)</b> MCCLAIN, JAMES A.	
	<b>Examiner</b> Ganapathy Krishnan	<b>Art Unit</b> 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,7,13-16 and 18-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,7,13-16 and 18-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/02/08</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

The amendment filed 9/2/2008 has been received, entered and carefully considered. The following information provided in the amendment affects the instant application:

1. Claims 2, 5, 8, 11-12, 17 and 24-27 have been canceled.
2. Remarks drawn to claim objections and rejections under 35 USC 112, second paragraph and 102.

Claims 1, 3-4, 6-7, 13-16 and 18-23 are pending in the case.

The following objections/rejections of record in the previous Office action mailed 06/03/2008 have been overcome in view applicants' arguments/amendments.

a) Objection to claims 24 and 26 has been rendered moot by cancellation of the said claims.

b) The rejection of claim 23 under 35 USC 112, second paragraph in view of applicants' arguments.

c) The rejection of claim 27 under 35 USC 102(b) has been rendered moot by cancellation of the claim.

Process claims 1, 3-4, 6-7, 13-16 and 18-23 indicated as being allowable in the previous office action is being withdrawn and the following art rejection is made of record.

Ohkuma teaches the treatment of corn starch (limitation of claim 21) with hydrochloric acid solution, reducing the moisture content to about 8% (limitation of claims 13-14) and heating it to a temperature of 130, 140, 150, 150 and 170°C to obtain

Art Unit: 1623

dextrin in about 80% yield (col. 14, lines 30-52; limitations of claims 15-16). The whiteness level of the product obtained at 140°C is about 51 (col. 23, Table 13). The pH is seen to be about 1 to about 4. This teaching is also seen to meet the limitations of instant claims 1, 3, 6-7, 24 and 27. Ohkuma teaches making of food products using the starch of his invention (see examples in Col. 35 through 54; limitation of claim 23).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3-4, 6-7, 13-16 and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohkuma et al (US 5,358,729), of record in view of Klinger et al (US 6,844,022), newly cited.

Ohkuma teaches the treatment of corn starch with hydrochloric acid solution, reducing the moisture content to about 8% and heating it to a temperature of 130, 140, 150, 150 and 170°C to obtain dextrin in about 80% yield. The whiteness level of the

Art Unit: 1623

product obtained at 140°C is about 51 (col. 23, Table 13). The pH is seen to be about 1 to about 4. Ohkuma teaches that starch other than corn starch like potato or tapioca starch can also be used for making resistant starch (col. 28, lines 55-65) and making of food products using the starch of his invention (see examples in Col. 35 through 54). However, he does not teach the use gaseous hydrochloric acid or starch derived from rice, cassava or wheat or maintaining the starch at the reaction temperatures disclosed till a whiteness level of at least 65 is obtained. But the results disclosed in Table 13 (col. 23) shows that a whiteness level of at least 65 can be obtained.

Klinger, drawn to thermochemically modified starch, teaches that starch treated with acid and heated produce products that are white (Table 2C, col. 7-8). The optical properties in Table 2C after heating the starch/acid mixture for ten minutes at 105°C is reported as white. Even though results at higher temperature and heating time are not reported one of ordinary skill in the art would recognize that the color trend on increasing the heating time is towards white. Based on this result one of skill in the art would be motivated to increasing the heating time in order to improve the whiteness level of the starch.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use starch derived from other sources or gaseous hydrochloric acid in the process as instantly claimed since the chemical modification of starch and dextrin using hydrochloric acid is taught in the prior art.

One of ordinary skill in the art would be motivated to use starch from other sources and gaseous HCl in order to extend the process to other types of starches that are structurally similar. This would yield resistant starch of different types for use in food

Art Unit: 1623

industry and also conform to industry standards with respect to properties (Klinger , col. 1, lines 48-52). Gaseous HCl is also easier to manipulate compared to aqueous solutions. It is well within the skill level of the artisan to adjust process parameters like temperature, time and pH in order to optimize the properties of the product based on the disclosure of the prior art.

### ***Conclusion***

. Claims 1, 3-4, 6-7, 13-16 and 18-23 are rejected

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ganapathy Krishnan whose telephone number is 571-272-0654. The examiner can normally be reached on 8.30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Art Unit: 1623

Customer Service Representative or access to the automated information system, call  
800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ganapathy Krishnan/

Examiner, Art Unit 1623

/Shaojia Anna Jiang/

Supervisory Patent Examiner, Art Unit 1623